International Journal of Population Data Science

Journal Website: www.ijpds.org

Modelling health and care service pathways in the last year of life before non-sudden death, by GP palliative care registration, using population-scale linked electronic health and administrative records

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There is little evidence on health and care service utilisation among those identified as needing palliative care. We aimed to quantify the uptake of services across health and care systems in the last year of life before non-sudden death, by GP palliative care registration. Multi-state models were used to evaluate pathways of service utilisation in the last year of life using population-scale linked administrative and health data for Welsh residents who died of non-sudden causes between 2014 and 2023. Cox regression models, adjusted for age, sex, rurality, area-level deprivation and GP palliative care registration were used to estimate hazards between settings, including emergency, elective and other hospital admissions, homes, care homes (with and without nursing), and death. In total, 1.8 million transitions were modelled for 267,199 individuals. Of those, 27.7% of individuals were registered for palliative care. Men, most-deprived communities, Asian ethnic groups and those living alone were under-represented on the GP palliative care register. 90.3% of emergency admissions were from home. Palliative care registered individuals had a 23% (HR 1.23 [95% CI 1.22–1.25]) increased rate of emergency admissions from home compared with unregistered. Emergency admissions from care homes with and without nursing were 17% (HR 0.83 [95% CI 0.80–0.86]) and 18% (HR 0.82 [95% CI 0.79–0.85]) lower for palliative care registered compared with unregistered residents. Health service utilisation varied significantly by GP palliative care status. Targeted identification of individuals eligible for palliative care, and additional support at home could improve whole-system outcomes.

https://doi.org/10.23889/ijpds.v11i5.3577